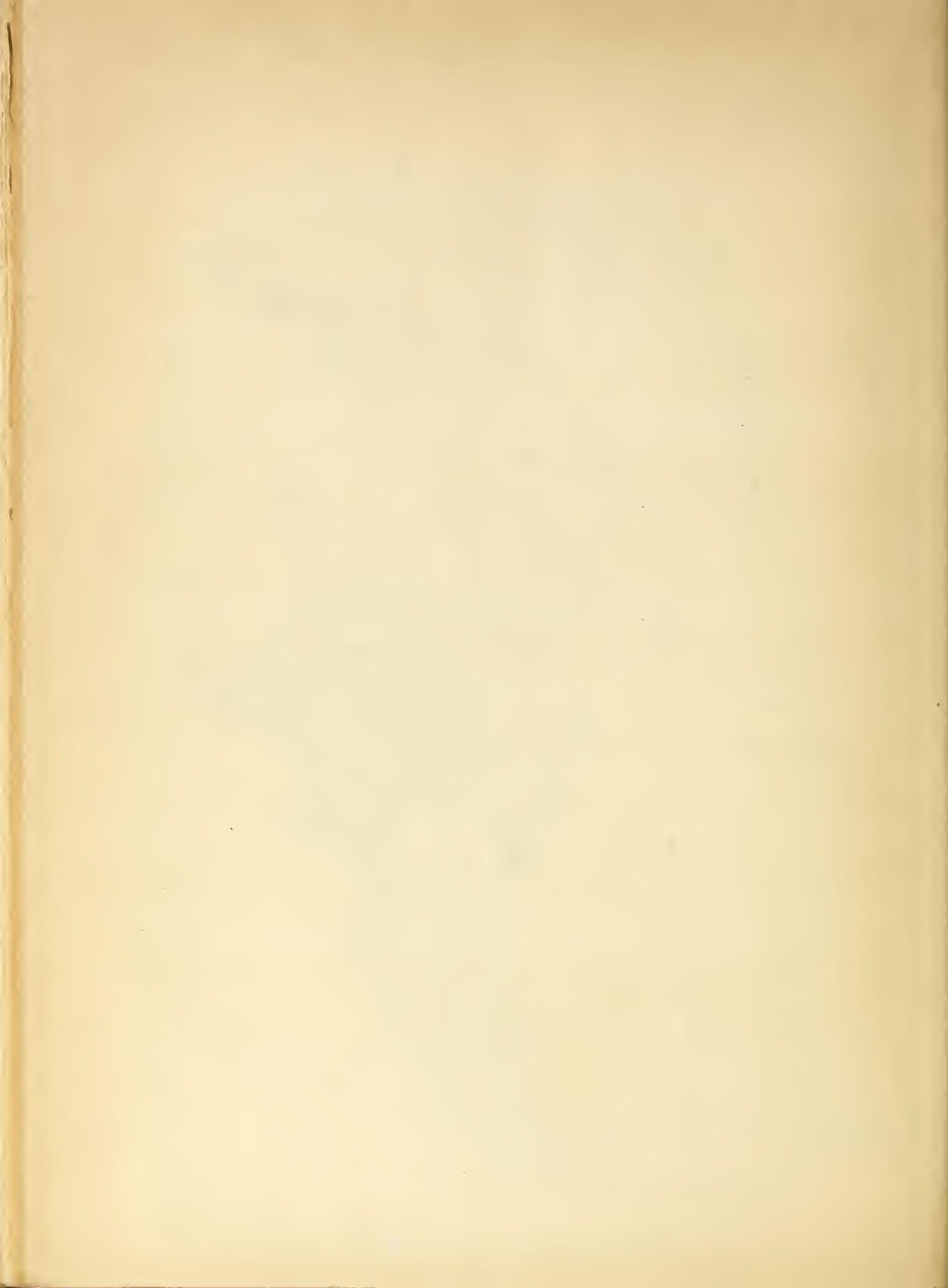


Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



142

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE

JUL 20 1944

INSECT PEST SURVEY

U. S. DEPARTMENT OF AGRICULTURE

SPECIAL SUPPLEMENT

May 1, 1944

A

REPORT UPON COOPERATIVE POTATO TUBER WORM SURVEY IN 1943

By W. H. White, Bureau of Entomology and Plant Quarantine, in
Cooperation with State and Experiment Station Entomologists

In March 1941 and in July 1941 the Central Plant Board and the Western Plant Board, respectively, adopted resolutions in which it was requested that the Bureau of Entomology and Plant Quarantine conduct a survey in the principal potato-growing areas of the United States with a view to determining the distribution and economic status of the potato tuber worm Gnorimoschema operculella (Zell.), with special reference to the quarantine aspects relating to this insect, and to notify the states regarding the information obtained during this survey.

In considering plans for a potato tuber worm survey it became apparent that the limited facilities at the Bureau's disposal, from the standpoint of manpower, finances, and transportation, plus available cooperation by the State agencies, would not permit an immediate and comprehensive survey for the entire country. The general plan was adopted, therefore, of conducting the survey in as many states each year as available resources permitted, with the hope that this effort could be eventually extended to include an examination of all of the more important potato-growing areas of the country.

In accordance with the above plan, and with the cooperation of the states involved, surveys were made during 1942 to ascertain whether the potato tuber worm was present in the following 17 states: Washington, Oregon, Idaho, Utah, Wyoming, Colorado, Nebraska, Kansas, Texas, Louisiana, Mississippi, Alabama, Georgia, South Carolina, North Carolina, Maryland, and New Jersey. A report upon the 1942 survey, which disclosed the presence of the potato tuber worm in Nebraska, Louisiana, Mississippi, Alabama, Georgia, North Carolina, South Carolina, and Maryland, was given at the National Plant Board Conference at Baltimore, Maryland, during the period October 12-14, 1942. This report was distributed as a part of the "Minutes of the Eighteenth Annual Meeting of the National Plant Board."

1943 Survey

Pursuant to the general plan, as outlined, it was decided tentatively to conduct the potato tuber worm survey during 1943 in the following 13 states: New York, New Jersey, West Virginia, Ohio, Indiana, Tennessee, Kentucky, Wisconsin, North Dakota, South Dakota, Montana, Oklahoma, and Texas. It was not possible, however, to organize the survey activities in West Virginia and Indiana, so the principal effort was confined to the remaining 11 states mentioned. The 1943 survey followed, insofar as possible, the same general procedure as in 1942, and included a systematic examination of potato fields, commercial and farm storages, packing sheds, track storages and cull piles as well as fields of host plants other than potato, such as tobacco, tomato, eggplant, pepper, and susceptible weeds.

The principal data obtained during the 1943 survey are summarized in table 1. It will be noted that during this survey a total of 123 counties were examined in the 11 states, which required a total of 1303 man-hours. This work involved the examination of 597 potato fields, 561 potato storages, packing houses, and cull piles, 2 tobacco fields, and 56 other miscellaneous crops or patches of wild host plants.

The potato tuber worm was found, and positive identification made by specialists of the Division of Insect Identification of this Bureau, in 7 counties in Texas and in 5 counties in New Jersey. All of these infestations were found in potato fields. No infestations were found in New York, Ohio, Tennessee, Kentucky, Wisconsin, North Dakota, South Dakota, Montana, or Oklahoma. A list of counties found infested by the potato tuber worm during the 1943 cooperative survey is given in table 2. A list of the counties examined for the potato tuber worm during this survey is given in table 3.

According to the information given in Insect Pest Survey Bulletin 21, Supplement to No. 9 (Nov. 8, 1941) under the title of "Records of Distribution of the Potato Tuber Worm (Gnorimoschema operculella (Zell.)) in the United States," this insect had not been found in the field in New Jersey prior to 1943. Field infestations in Texas, however, had been recorded.

Note: In compiling information for the abovementioned publication, an entry was overlooked regarding the occurrence of the potato tuber worm in Arizona, as recorded by K. B. McKinney in an article entitled "Common Insects Attacking Sugar Beets and Vegetable Crops in the Salt River Valley of Arizona," that appeared in the Journal of Economic Entomology, Vol. 32, No. 6, pp. 808-810, December 1939.

In addition to the scheduled survey some of the parishes in Louisiana were examined in response to reports made to the Bureau by State officials regarding the presence of the potato tuber worm. During these activities, a total of 7 parishes in southern Louisiana were found to be infested by the potato tuber worm, where infestations were not disclosed by the 1942 survey. These parishes were Acadia, Iberia, Jefferson Davis, Lafayette, St. Landry, St. Martin, and St. Mary. All infestations were found in stored potatoes.

Thanks are expressed to the State authorities who participated in the survey, to the personnel of other Divisions of the Bureau who were designated to assist in this work, and also to the specialists of the Division of Insect Identification for their painstaking work in making specific identifications of the material submitted.

The attached colored map shows the following important information obtained during the 1942-1943 cooperative potato tuber worm survey (1) Counties or parishes where the insect was found in potatoes. (2) Counties or parishes where the insect was found in tobacco, tomato, or horse nettle. (3) Counties or parishes surveyed but no potato tuber worm infestation found. (4) Areas to be surveyed for potato tuber worm as resources permit.

Table 1. Extent of cooperative survey on the potato tuber worm during 1943 and the infestations found

| State | Number of Man-Hours Devoted to: | | | Number of Counties Infested--: | | |
|--------------|---------------------------------|--|-------------------------|--------------------------------|---------------------------|----------------------|
| | Survey in | | by Plants and Locations | Potato: | | Other |
| | Number of Counties Surveyed | Potato; Storage; Tobacco; Crops Fields; and pack | Total | To- tal | Crops Fields; and Pack | Fields and Wild; tal |
| New York | 20 | 140 | 30 | 10 | 180 | 0 |
| New Jersey | 10 | 410 | 140 | 0 | 550 | 7 |
| Ohio | 6 | 9 | 9 | 0 | 18 | 0 |
| Tennessee | 6 | 27 | 12 | 0 | 39 | 0 |
| Kentucky | 2 | 25 | 7 | 0 | 32 | 0 |
| Wisconsin | 11 | 17 | 30 | 2 | 49 | 0 |
| North Dakota | 17 | 10 | 85 | 0 | 95 | 0 |
| South Dakota | 8 | 15 | 46 | 0 | 61 | 0 |
| Montana | 27 | 44 | 132 | 0 | 176 | 0 |
| Oklahoma | 11 | 1 | 54 | 0 | 55 | 0 |
| Texas | 5 | 43 | 5 | 0 | 48 | 5 |
| | | | | | | f |
| | 123 | 741 | 550 | 2 | 10 | 1303 |
| | | | | | | 12 |

Table 2. List of counties found infested by potato tuber worm during 1943

NEW JERSEY

Burlington
Camden
Cape May
Cumberland
Gloucester
Ocean
Salem

TEXAS

Bailey
Dallam
Deaf Smith
Hale
Lubbock

Table 3. List of counties examined for potato tuber worm during 1943

NEW YORK

Allegany
Broome
Chenango
Clinton
Cortland
Erie
Essex
Franklin
Genesee
Livingston
Madison
Monroe
Nassau
Onondaga
Steuben
Suffolk
Washington
Wayne
Westchester
Wyoming

OHIO

Champaign
Clark
Darke
Morrow
Richland
Wayne

TENNESSEE

Coffee
Cumberland
Fentress
Franklin
Moore
Morgan

KENTUCKY

Jefferson
Oldham

WISCONSIN

Dane
Kenosha
Langlade
Milwaukee
Oneida
Racine
Rock
Shawano
Walworth
Waukesha
Waupaca

NORTH DAKOTA

Barnes
Benson
Case
Foster
Griggs
Grand Forks
McHenry
Pembina
Ramsey
Richland
Stutsman
Traill
Towner
Walsh
Wells
Ward
Williams

SOUTH DAKOTA

Brookings
Clark
Codington
Day
Deuel
Grant
Marshall
Roberts

MONTANA

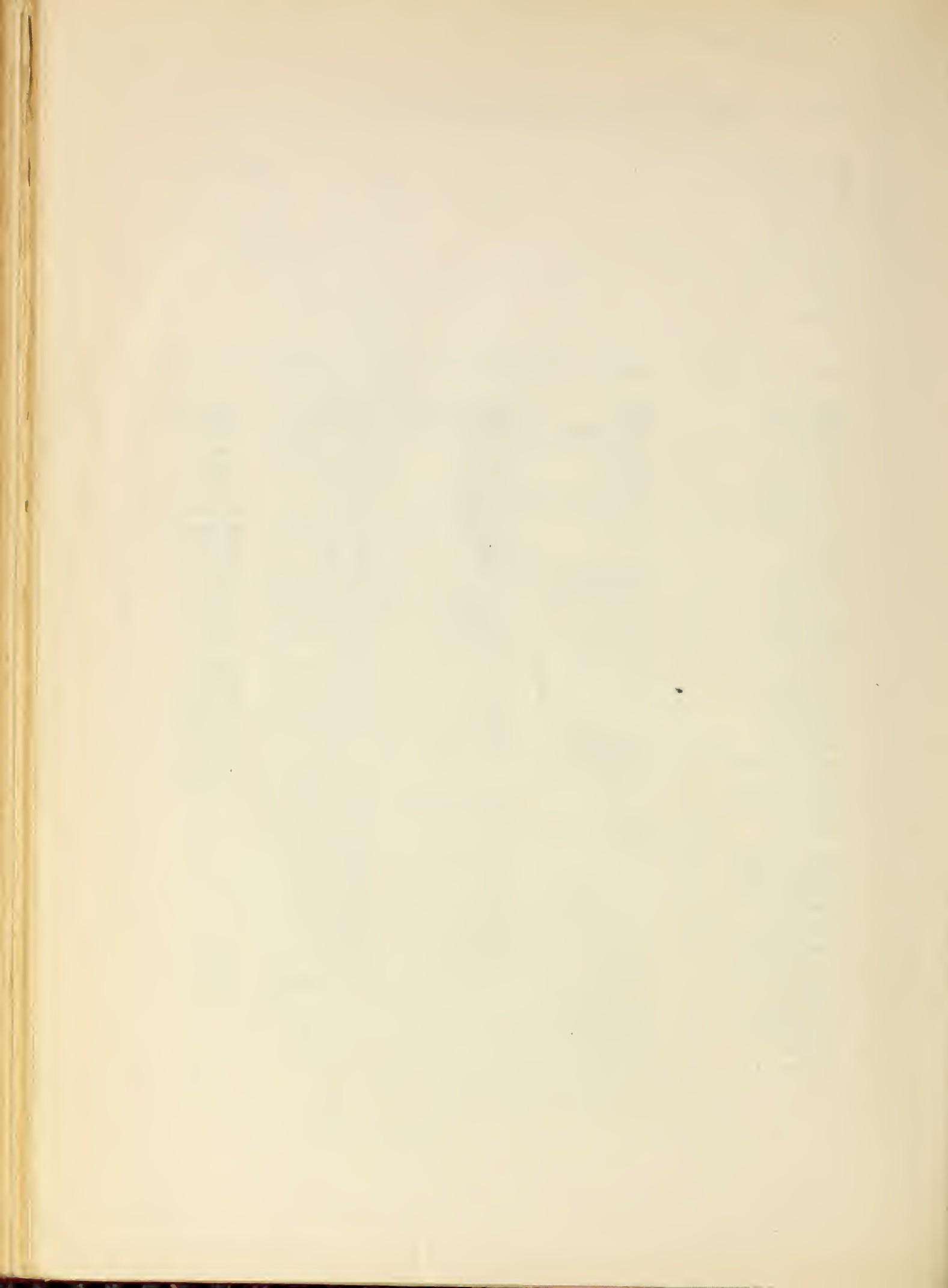
Beaverhead
Big Horn
Blaine
Carbon
Cascade
Chouteau
Custer
Dawson
Deer Lodge
Flathead
Gallatin
Hill
Jefferson
Lake
Lewis and
Clark
Madison
Missoula
Phillips
Powell
Prairie
Ravalli
Richland
Roosevelt
Rosebud
Teton
Valley
Yellowstone

OKLAHOMA

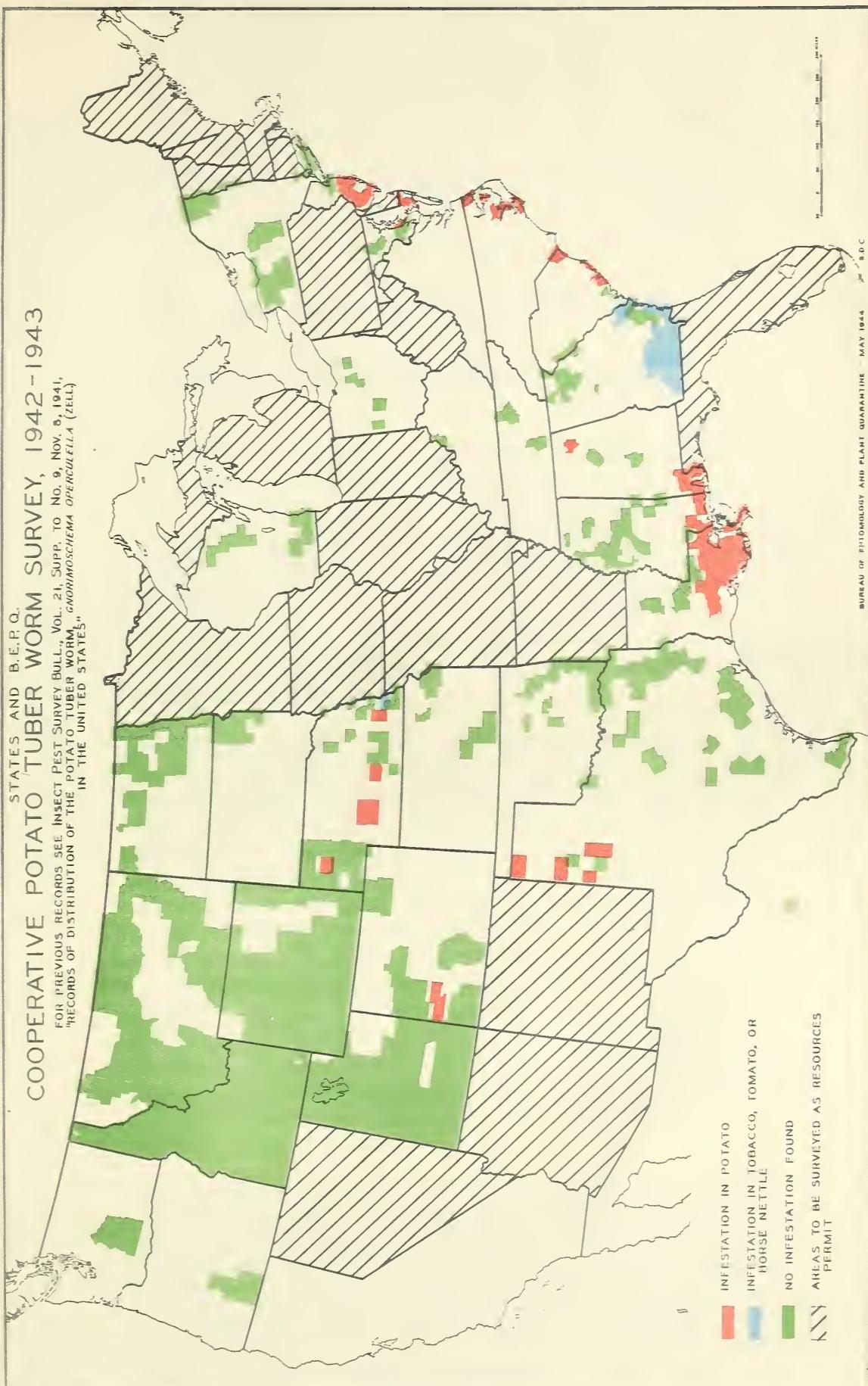
Bryan
Choctaw
Haskell
Le Flore
McCurtain
Muskogee
Okfuskee
Payne
Pottawatomie
Tulsa
Wagoner

TEXAS

Bailey
Dallam
Deaf Smith
Hale
Lubbock



STATES AND B.E.P.Q.
COOPERATIVE POTATO TUBER WORM SURVEY, 1942-1943
FOR PREVIOUS RECORDS SEE INSECT PEST SURVEY BULL., VOL. 21, SUPP. TO NO. 9, NOV. 8, 1941,
"RECORDS OF DISTRIBUTION OF THE POTATO TUBER WORM, *GНОMOSCHEМА OPERCULELLA* (ZELL)
IN THE UNITED STATES."



BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE - MAY 1944

J. B. D. C.

